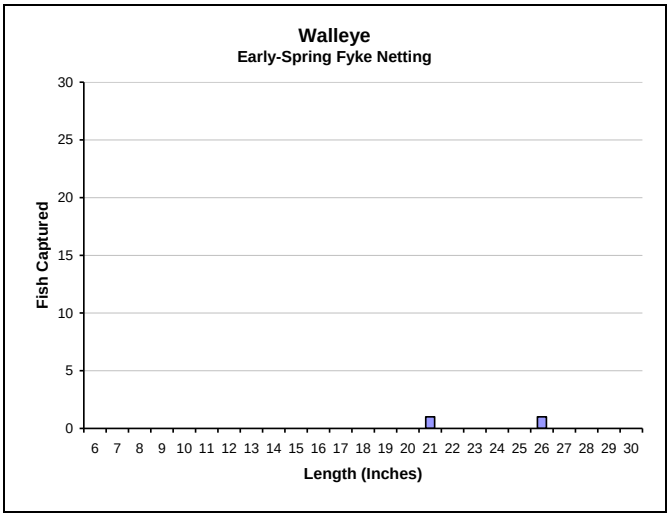
Early-Spring Fyke Netting Survey Summary
Lake Winter, Sawyer County, 2011

The Hayward DNR Fisheries Management Team conducted a fyke netting survey on Lake Winter during May 2-4, 2011 as part of our baseline monitoring program. Eight nets were set overnight for two nights, resulting in 16 net-nights of effort. Primary target species were walleye, muskellunge, northern pike and yellow perch, but we also obtained useful data on the status of black crappie. An electrofishing survey conducted by our team in early June documented the status of largemouth bass, bluegill and other species. Those results are summarized in a separate survey report. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society.

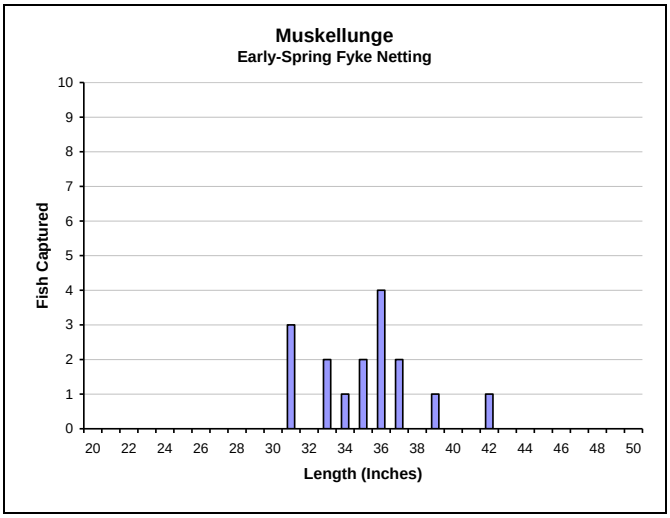
Walleye

Captured 0.1 per net-night ≥ 10”	
Quality Size ≥ 15”	100%
Preferred Size ≥ 20”	100%



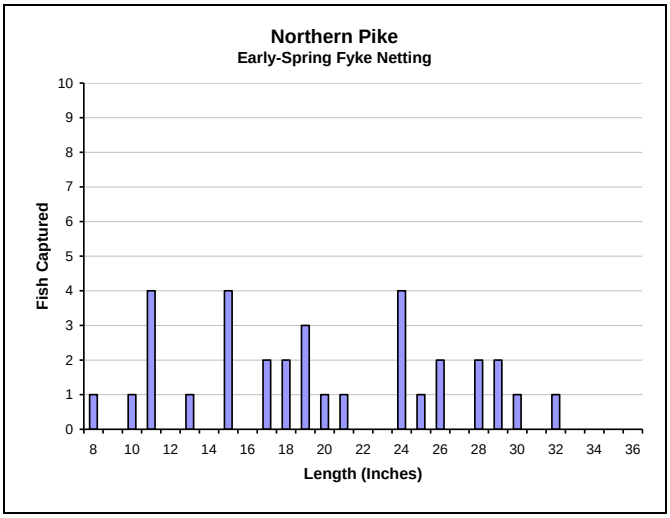
Muskellunge

Captured 1.0 per net-night ≥ 20”	
Quality Size ≥ 30”	100%
Memorable Size ≥ 42”	6.3%



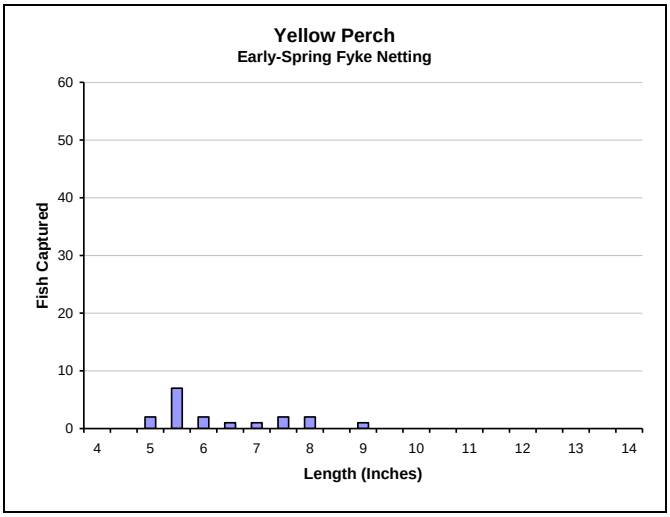
Northern Pike

Captured 1.6 per net-night ≥ 14”	
Quality Size ≥ 21”	54%
Preferred Size ≥ 28”	23%

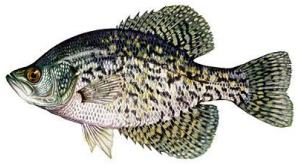


Yellow Perch

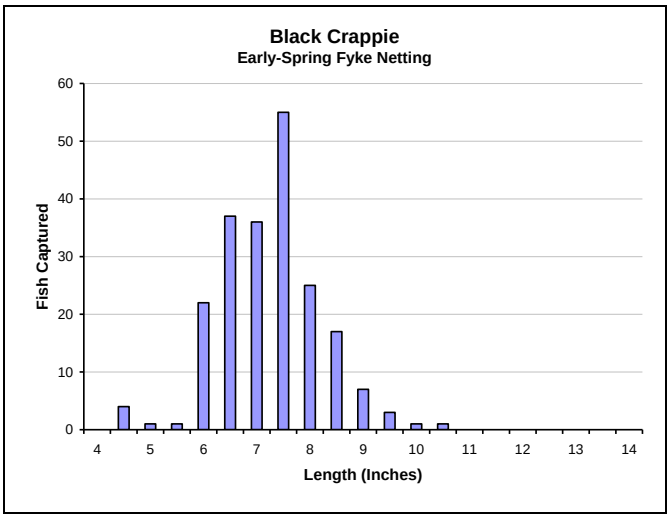
Captured 1.1 per net-night ≥ 5”	
Quality Size ≥ 8”	17%
Preferred Size ≥ 10”	0%



Black Crappie



Captured 13 per net-night ≥ 5”	
Quality Size ≥ 8”	26%
Preferred Size ≥ 10”	1.0%



Summary of Results

With normal water levels and water temperature in the mid 40s, our survey was well-timed for purposes of obtaining a representative sample of target species adults in likely near-shore spawning areas. However, there is concern that an unknown proportion of the adult walleye population migrates upstream into the Brunet River to spawn, thereby avoiding detection by our efforts.

We captured only a couple large, adult walleyes. Though some adults may have been upstream at the time of our survey, low capture rates of young walleyes in previous fall electrofishing samples (only one 10-inch fish in fall 2010) suggests a virtual lack of recruitment. The current low-density, remnant walleye population is the result of stocking events in the 1990s that were unusually successful due to the temporary collapse, either from disease or winterkill, of the largemouth bass population at that time. Recent fall stockings of large walleye fingerlings (6-8 inches) appear to have been unsuccessful. Largemouth bass are thought to be effective predators on young walleyes and competitors with juvenile and adult walleyes for food. Relatively abundant largemouth bass (24 per mile of shoreline electrofishing in late spring 2011) may be inhibiting recruitment of walleye. It is also quite likely that many young walleyes (stocked or not) are lost to entrainment (one-way passage downstream) by bottom release at the Price Dam. Early-spring fyke netting optimizes assessment for walleye. Based on Winter Lake habitat (which favors largemouth bass and muskellunge) and expected long term fish community composition, we recommend that future spring fyke netting be done at a slightly later time (mid spring – SN2) and in locations that optimize assessment for muskellunge, not walleye.

Our 2011 spring muskellunge capture rate (1.0 per net night) was similar to the average for northern Wisconsin (0.95 per net-night) but slightly lower than in 2005 (1.35 per net-night captured by DNR's Treaty Fisheries Assessment Team). All muskellunge captured in 2011 were of quality size (≥ 30") – up from 75% in 2005. Recruitment may have declined in recent years. Our survey revealed that Lake Winter has a moderate-density northern pike population with very desirable size structure; 23% were of preferred size (≥ 28 inches) despite the fact that our survey occurred after most adult pike had completed spawning in the shallows.

We captured very few yellow perch, which may reflect the generally low productivity of Lake Winter, predation by abundant largemouth bass on young perch, and size-selective predation on larger perch by moderate numbers of large esocid predators (muskellunge and pike). Black crappie ≥ 5 inches were captured at a moderate rate (13 per net-night); but most were only 6 to 8.5 inches long, suggesting there are too many crappies to grow at a satisfactory rate in a lake with such limited productive capacity. Crappie recruitment often is excessive in lakes with few walleyes, which are the most effective predators on young crappies. High size-selective angler harvest of the biggest crappies can easily remove the few fish that attain larger size.

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Reviewed and Approved By:
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August 17, 2011